इंटरनेट मानक

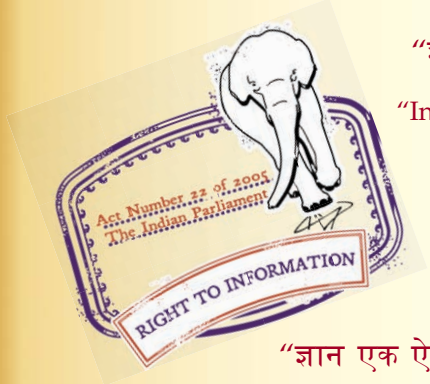
Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 4392 (2003): Textiles - Hand-Made NAMDHAS [TXD 4: Wool and Wool Products]



"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

BLANK PAGE

भारतीय मानक

वस्त्रादि — हस्त निर्मित नमदे — विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

TEXTILES — HAND-MADE *NAMDHAS* — SPECIFICATION

(First Revision)

ICS 59.060.10; 59.080.60

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

April 2003

Price Group 3

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Wool and Wool Products Including Floor Coverings Sectional Committee, had been approved by the Textile Division Council.

NAMDHA is a felted rug made of wool or mixture of wool and cotton in different proportion. It is embroidered with woollen yarn of different colours and shades.

This standard, was first published in 1967, specifies six grades of *NAMDHAS*. However in this revision the requirements of three grades, namely, extra special, super medium and medium have been deleted with a view to reduce the varieties. The existing *CHALOO* grade has been upgraded and the wool contents have been increased from 22 to 30 percent. Accordingly, this grade has been designated as New *CHALOO*.

The composition of the Committee responsible for formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — HAND-MADE *NAMDHAS* — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements of three grades of hand-made *NAMDHAS*. However, this does not specify the general appearance, design, etc, of *NAMDHAS* (*see also* **4.4**).

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
5756 : 1970	Code for packaging of carpets
6359 : 1971	Method for conditioning of textiles

3 GRADES

There shall be three grades of *NAMDHAS* as given below:

Grade	*Designation*	*Percentage of*	
		Wool	Cotton
1	All wool	100	—
2	Special	50	50
3	New *CHALOO*	30	70

4 MANUFACTURE

4.1 *NAMDHAS*

The wool and cotton used in the manufacture of *NAMDHA* should be clean, well carded and free from dust, foreign matter and other impurities. In case *NAMDHAS* made of mixture of wool and cotton, the bottom and top layers should be of wool and the inner layer of cotton. All the layers should be reasonably uniform and the bottom and top layers should be reasonably equal in thickness.

In case of such *NAMDHAS* the proportion of wool and cotton should be same throughout.

4.2 Embroidery Yarn

Mill spun wool yarn should be used for Grades 1 and 2, and hand-spun wool yarn for Grade 3 of *NAMDHAS*.

5 REQUIREMENTS

5.1 The *NAMDHAS* of Grades 1, 2 and 3 shall conform to the requirements given in Tables 1 to 3.

5.2 Tolerance on Dimensions

Rectangular and square *NAMDHAS*

Length and width	: ± 2.5 cm up to 200 cm and ± 5 cm above that
Diagonals	: ± 3 percent on the average of two diagonals
Circular *NAMDHAS*	: ± 2.5 cm on diameter

5.3 Wool Content

The wool content of *NAMDHAS* when determined by the method given in **A-5** shall be according to the grades specified subject to a tolerance of ± 6 percent provided the overall percentage does not exceed 100 percent.

5.4 Sealed Sample

If in order to illustrate or specify the general appearance, design and other indeterminable characteristics of *NAMDHAS*, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in these respects. The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

6 LABELLING

A label of 5 cm × 10 cm size giving the following information, shall be attached to each *NAMDHAS*:

a) Grade of *NAMDHA* and percentage of wool and cotton content;
b) Size;
c) Mass of finished *NAMDHA* and embroidery yarn;
d) Any other information required by customs or law in force; and
e) Month and year of manufacture.

Table 1 Requirements of *NAMDHAS* Grade 1 All Wool

(*Clause* 5.1)

Sl No.	Size	Mass of Raw Material[1] (Wool)	Minimum Mass of		
			Felt (Without Embroidery)	Embroidery Yarn	Finished *NAMDHA*
	cm	kg	kg	kg	kg
(1)	(2)	(3)	(4)	(5)	(6)
	a) *Rectangular and Square* *Length × Width*				
i)	60 × 60	0.38	0.31	0.08	0.39
ii)	90 × 60	0.58	0.47	0.12	0.59
iii)	120 × 90	1.17	0.93	0.23	1.16
iv)	150 × 90	1.46	1.17	0.29	1.46
v)	180 × 120	2.33	1.87	0.47	2.34
vi)	210 × 150	3.62	2.16	0.70	2.86
vii)	240 × 150	4.14	3.38	0.79	4.17
viii)	270 × 180	5.60	4.67	1.05	5.72
ix)	300 × 240	8.31	6.79	1.58	8.72
x)	360 × 270	11.20	9.33	2.10	11.43
xi)	450 × 360	18.66	15.16	3.62	18.78
	b) *Round Circular* *Diameter*				
xii)	45 × 45	0.18	0.15	0.05	0.20
xiii)	60 × 60	0.38	0.32	0.06	0.38
xiv)	75 × 75	0.47	0.38	0.09	0.47
xv)	90 × 90	0.85	0.70	0.18	0.88
xvi)	120 × 120	1.52	1.17	0.29	1.46
xvii)	150 × 150	2.33	1.98	0.47	2.47
xviii)	180 × 180	3.50	2.97	0.70	3.67
Method of Test	**A-2**	—	**A-4**	**A-4**	**A-3**

[1]For information only.

Table 2 Requirements of *NAMDHAS* Grade 2 Special

(*Clause* 5.1)

Sl No.	Size	Mass of Raw Material[1]		Minimum Mass of		
		Wool	Cotton	Felt (Without Embroidery)	Embroidery Yarn	Finished *NAMDHA*
	cm	kg	kg	kg	kg	kg
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	a) *Rectangular and Square* *Length × Width*					
i)	60 × 60	0.21	0.21	0.33	0.09	0.42
ii)	90 × 60	0.29	0.29	0.50	0.12	0.62
iii)	120 × 60	0.38	0.38	0.64	0.12	0.76
iv)	120 × 90	0.58	0.58	0.99	0.23	1.22
v)	150 × 90	0.73	0.73	1.17	0.29	1.46
vi)	180 × 120	1.17	1.17	1.98	0.47	2.45
vii)	210 × 150	1.81	1.81	2.16	0.70	2.86
viii)	240 × 150	2.10	2.10	3.38	0.79	4.17
ix)	270 × 180	2.73	2.73	4.66	1.05	5.71
x)	270 × 225	3.38	3.38	5.72	1.28	7.00
xi)	300 × 210	3.62	3.62	5.95	1.40	7.35
xii)	300 × 240	4.14	4.14	6.79	1.58	8.37
xiii)	330 × 240	4.55	4.55	7.46	1.69	9.15
xiv)	315 × 270	4.90	4.90	7.76	1.87	9.63
xv)	360 × 270	5.60	5.60	9.33	2.10	11.43
xvi)	450 × 360	9.33	9.33	15.17	3.62	18.79
	b) *Round or Circular* *Diameter*					
xvii)	45 × 45	0.12	0.12	0.23	0.05	0.28
xviii)	60 × 60	0.20	0.20	0.35	0.06	0.41
xix)	70 × 70	0.23	0.23	0.41	0.09	0.50
xx)	90 × 90	0.41	0.41	0.70	0.18	0.88
xxi)	120 × 120	0.70	0.70	1.17	0.29	1.46
xxii)	150 × 150	1.17	1.17	1.98	0.47	2.45
xxiii)	180 × 180	1.75	1.75	2.97	0.70	3.67
Method of Test	**A-2**	–		**A-4**	**A-4**	**A-3**

[1]For information only.

Table 3 Requirements of *NAMDHAS* Grade 3 New *CHALOO*
(*Clause* 5.1)

Sl No.	Size	Mass of Raw Material[1)]		Minimum Mass of		
		Wool	Cotton	Felt (Without Embroidery)	Embroidery Yarn	Finished *NAMDHA*
	cm	kg	kg	kg	kg	kg
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	a) *Square Length* × *Width*					
i)	55 × 55	0.09	0.20	0.24	0.07	0.31
ii)	60 × 60	0.17	0.39	0.39	0.09	0.48
iii)	90 × 90	0.32	0.79	0.76	0.18	0.94
iv)	120 × 120	0.57	1.32	1.40	0.27	1.67
v)	150 × 150	0.76	1.77	1.87	0.41	2.28
	b) *Rectangular Length* × *Width*					
vi)	85 × 55	0.14	0.32	0.38	0.11	0.49
vii)	115 × 85	0.27	0.63	0.76	0.21	0.97
viii)	150 × 75	0.30	0.70	0.89	0.24	1.13
ix)	150 × 90	0.38	0.88	1.05	0.27	1.32
x)	175 × 115	0.53	1.23	1.52	0.42	1.94
xi)	180 × 160	0.92	2.14	2.45	0.62	3.07
xii)	210 × 150	1.26	2.93	2.45	0.64	3.09
xiii)	240 × 150	1.48	3.44	3.03	0.82	3.85
xiv)	270 × 180	2.11	4.91	4.21	1.00	5.21
xv)	300 × 240	2.86	5.50	5.84	1.64	7.48
xvi)	360 × 270	4.09	9.52	8.43	1.99	10.42
xvii)	450 × 360	6.78	15.68	14.02	3.28	17.30
Method of Test	**A-2**		–	**A-4**	**A-4**	**A-3**

[1)]For information only.

6.1 BIS Certification Marking

The product may also be marked with the Standard Mark.

6.1.1 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 PACKING

NAMDHAS shall be packed in roll or bale form as given in IS 5756. The package shall be neatly stenciled in indelible ink with the information as given in **3** of IS 5756.

8 SAMPLING

8.1 Lot

All the numbers of the same grade and size delivered to one buyer against one dispatch note shall constitute a lot.

8.2 Unless and otherwise agreed to between the buyer and the seller, the number of *NAMDHAS* to be selected at random from a lot shall be in accordance with col 2 of Table 4.

8.2.1 For examining the mass and the dimensions the number of *NAMDHAS* as given in col 2 of Table 4 shall be inspected.

8.2.2 For examining for the characteristics mass of embroidery yarn and mass of felt and wool content, 2 number of *NAMDHAS* from each lot shall be selected.

8.3 Criteria for Conformity

The lot shall be considered conforming to the requirements of the standard if the following conditions are satisfied:

a) The number of *NAMDHAS* not meeting the requirements for weight and dimensions does not exceed the corresponding number given in col 3 of Table 4.
b) Both the *NAMDHAS* inspected for mass of embroidery yarn and felt and wool content satisfy the corresponding requirement.

Table 4 Sample Size and Criteria for Conformity
(*Clauses* 8.2, 8.2.1 *and* 8.3)

Sl No.	No. of *NAMDHAS* in the Lot	No. of *NAMDHAS* to be Selected from the Sample	Permissible No. of Non-Conforming *NAMDHAS*
(1)	(2)	(3)	(4)
i)	Up to 25	3	0
ii)	26 to 50	5	0
iii)	51 to 100	8	0
iv)	101 to 150	13	11
v)	151 to 300	20	2
vi)	301 and above	32	3

ANNEX A

(*Tables* 1 *to* 3, and *Clause* 5.3)

METHODS OF TEST

A-1 CONDITIONING OF TEST SPECIMENS AND ATMOSPHERIC CONDITIONS FOR TESTING

A-1.1 The test specimens shall preferably be conditioned for test and tested in the standard atmosphere as given in IS 6359. Otherwise the temperature and relative humidity in which tests are carried out shall be reported.

A-2 SIZE

A-2.1 Take a test specimen and lay it on a flat surface and render it free from all creases and wrinkles. With a metallic tape, measure correct to the nearest millimetre:

a) The length/width of square or rectangular *NAMDHA*, excluding fringes, if any, at three different places uniformly distributed along the width/length. Calculate the average of the three readings to the nearest 5 mm.

b) The diameter of the circular *NAMDHA*, excluding fringes, if any, at four different points distributed along the peripheri. Calculate the average of the four readings to the nearest 5 mm.

A-2.2 Similarly determine the size of the *NAMDHAS* under test.

NOTE — To facilitate the measurement of diameters in case of circular *NAMDHAS* the centre may be determined by first folding the *NAMDHA* into half and then re-folding it into further half thus making it into a quarter size. The point where the two folds cross shall be taken as the centre of *NAMDHA*.

A-3 MASS OF FINISHED *NAMDHA*

Take one test specimen. With the help of a suitable balance, determine its mass correct to the nearest 10 g. Similarly determine the mass of other *NAMDHAS* under test.

A-4 MASS OF FELT AND EMBROIDERY YARN

A-4.1 Take the test specimen and lay it on a flat surface. With the help of a sharp razor, cut the embroidery yarn at different places and pull out all the yarn pieces gently, thus separating them from the felt.

A-4.2 Determine the mass of felt correct to the nearest 5 g and of the embroidery yarn correct to the nearest 2 g.

A-4.3 Determine similarly the mass of felt and embroidery yarn of other pieces and calculate the average.

NOTE — The mass of felt may also be checked at the time of manufacture by determining the mass of felt before embroidery is done on it. The mass of embroidery yarn would also be verified when the finished mass of the *NAMDHA* is determined since the difference between the mass of finished *NAMDHA* and felt would give the mass of embroidery yarn used.

A-5 PERCENTAGE OF WOOL

A-5.1 Take a sample of *NAMDHA* after removing the embroidery yarn completely. Extract it in a Soxhlet apparatus with light petroleum for 1 h at a minimum rate of 6 cycles per hour. Allow the light petroleum to evaporate and then extract the sample in Soxhlet apparatus with water for 2 h at a minimum rate of 6 cycles per hour.

A-5.2 Take a representative specimen weighing about 5 g from the pre-treated sample and place it in a suitable container. Place the specimen in the drying oven maintained at a temperature of 105 ± 3°C and dry it to a constant mass. The mass shall be taken as constant when the difference between the two successive weighing are made at intervals of 20 min, is less than 0.05 percent.

A-5.3 Determine mass of the specimen without removing it from the oven. In case the drying oven is not provided with the weighing balance, remove the specimen from the oven and transfer it to a weighing container of known mass provided with a light lid. The transference of the specimen should be done in as little time as possible. Cool the specimen and the container in a desiccator to room temperature before weighing. Weigh the container and then find the mass of the specimen to an accuracy of 10 mg.

A-5.4 Put the specimen in a beaker together with at least 100 times its mass of 5 percent solution of sodium or potassium hydroxide and boil slowly until the wool fibres become gelatinous and dissolve. After a period of 10 min of boiling, filter through a Gooch crucible and wash the residue first with warm water, then with 0.1 N solution of glacial acetic acid and finally with hot water. Dry the residue at 105 ± 3°C.

A-5.5 Examine carefully the residue and the pores of the crucible for non-fibrous matter, for example, burrs, seeds, finishing material, dyestuff residues as well as for incompletely dissolved wool. If any such contaminant is present, it shall be dissolved or otherwise removed. For example, undissolved wool protein be removed by treatment with fresh boiling

5 percent sodium or potassium hydroxide, burrs and seeds be lifted out with forceps. Rinse and dry the residue at 105 + 3°C to constant mass and weigh it to an accuracy of 10 mg.

A-5.6 From the mass of the specimen and residue, determine the percentage of wool by the following formula:

$$\text{Percentage of wool} = \frac{100\,(a - b)}{a}$$

where

a = oven-dry mass of the specimen, and

b = oven-dry mass of the residue.

ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Wool and Wool Products Including Floor Coverings Sectional Committee, TX 04

Organization	*Representative(s)*
Raymond Woollen Mills Ltd, Thane	DR G. S. SINGH (***Chairman***)
All India Woollen Shoddy Mills Association, Panipat	SHRI S. K. AGGARWAL
Amritsar Swadeshi Woollen Mills, Mumbai	SHRI RAJIV KHANNA
BIRLA VXL India Ltd, (Digjam Woollen Mills), Jamnagar	SHRI S. C. AGARWAL
	SHRI Y. KALRA (*Alternate*)
Bikaner Woollen Mills, Bikaner	SHRI JAI CHAND LAL BOTHRA
Central Sheep & Wool Research Institute (ICAR), Avikanagar, Bikaner	SHRI P. C. PATNI
	DR S. PARATHASARATHY (*Alternate*)
Deepak Woollen Mills Ltd, Mumbai	SHRI SURENDRA GOEL
Directorate of Industries, Government of Punjab, Chandigarh	SENIOR TECHNICAL OFFICER
Directorate of Marketing & Inspection, Faridabad	DEPUTY AGRICULTURAL MARKETING ADVISOR
Directorate General of Supplies & Disposals (Inspection Wing), New Delhi	SHRI SUNDER LAL
	SHRI SAMIRON ROY (*Alternate*)
International Wool Secretariat, New Delhi	DR S. K. CHAUDHURI
	SHRI ARINDAM SAHA (*Alternate*)
Ministry of Defence (R & D), New Delhi	SHRI S. C. JAIN
	SHRI R. INDUSHEKAR (*Alternate*)
Ministry of Defence (DGQA), New Delhi	SHRI N. K. DHIR
	SHRI A. CHOUDHARY (*Alternate*)
Modern Woollen Mills Ltd, Alwar	SHRI M. L. PAMECHA
Office of the Textile Commissioner, Mumbai	SHRI S. P. GHOSAL
	SHRI S. CHAKRABARTY (*Alternate*)
Shri Dinesh Mills Ltd, Vadodara	SHRI S. K. TANDON
	SHRI S. C. TANDON (*Alternate*)
Swastika Woollen Mills, Panipat	SHRI G. D. MAHAJAN
	SHRI ROHIT MAHAJAN (*Alternate*)
Sheep & Wool Department, Government of Rajasthan, Jaipur	DR V. K. PATHAK
Textiles Committee, Mumbai	SHRI P. K. MANDAL
	SHRI B. H. GOPALAKRISHNA (*Alternate*)
Voluntary Organisation in Interest of Consumer Education (VOICE), New Delhi	DR V. D. DUDEJA
Wool & Woollens Export Promotion Council, Mumbai	SHRIMATI CHITKALA ZUTSHI
	SHRI ASHOK K. MADHRAX (*Alternate*)
Wool Research Association, Thane	DR (SHRIMATI) S. PATWARDHAN
	SHRIMATI G. P. RANE (*Alternate*)
Woolworkth India Ltd, Kolkata	SHRI B. L. JAIN
	SHRI NAVEEN GUPTA (*Alternate*)
BIS Directorate General	SHRI M. S.VERMA, Director and Head (TXD) [Representing Director General (*Ex-officio*)]

Member Secretary
Shri B. L. BHARTI
Joint Director (TXD), BIS

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act,* 1986 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc : No. TX 04 (1665).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 0131, 2323 33 75, 2323 9402

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :		Telephone
Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110 002	2323 7617, 2323 3841
Eastern	: 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi, KOLKATA 700 054	2337 8499, 2337 8561, 2337 8626, 2337 9120
Northern	: SCO 335-336, Sector 34-A, CHANDIGARH 160 022	60 3843, 60 9285
Southern	: C.I.T. Campus, IV Cross Road, CHENNAI 600 113	2254 1216, 2254 1442, 2254 2519, 2254 2315
Western	: Manakalaya, E9 MIDC, Marol, Andheri (East), MUMBAI 400 093	2832 9295, 2832 7858, 2832 7891, 2832 7892

Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISAKHAPATNAM.

Printed at Prabhat Offset Press, New Delhi-2